

ANTECEDENTS OF LIVELIHOOD OF ENTREPRENEURS AT THE
DISASTER-HIT AREAS OF SINDH, PAKISTAN.

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This dissertation is dedicated to

Almighty “Allah”

(He gave me strength, knowledge, patience, and wisdom)

My wonderful parents

Mr. & Mrs. Muneeruddin Kazi



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ABSTRACT

Pakistan is an underdeveloped country and prone to natural disasters. A natural disaster destroys livelihood, causing death and scarcity of food, shelter, water, gas, education, jobs, health and infrastructure. Previous research shows that the aid from the government and the international community is a temporary relief, whereas entrepreneurship could provide a permanent solution for livelihood restoration because it generates jobs for the affected people. The main objective of this study is to examine the role of entrepreneurship in restoring livelihood through firm's performance and government support at the disaster-hit areas (district Dadu and Jamshoro) of Sindh, Pakistan. This is a quantitative research that used *Sustainable Livelihood Approach (SLA)* to develop the research framework. A total of 928 most affected entrepreneurs were selected as a sample by using multistage sampling technique. Questionnaires were used in data collection and the data collected was analyzed using covariance-based structural equation modeling for data analysis. The results showed that the entrepreneurship can restore livelihood through innovation skills, risk-taking, and proactiveness; whereas better firm performance could help other people to restore their livelihood. Additionally, the government support strengthens firms performance and create a sustainable livelihood for among entrepreneurs and their community. This study has contributed to the body of knowledge by testing SLA in an underdeveloped country. The findings could also aid policymakers to update policies related to livelihood restoration by including training for entrepreneurs as a contingency plan and backup plan for the business to cope with natural disasters. Furthermore, managers in disaster management can focus on entrepreneurship promotion when implementing a disaster management project. Thus, this study concludes and suggests that the entrepreneurship can be used for livelihood restoration program in a disaster-hit area particularly in the underdeveloped countries.

ABSTRAK

Pakistan adalah sebuah negara mundur dan terdedah kepada bencana alam. Bencana alam memusnahkan kehidupan manusia, menyebabkan kematian dan kekurangan makanan, tempat tinggal, air, gas, pendidikan, pekerjaan, kesihatan dan infrastruktur. Kajian-kajian lepas menunjukkan bantuan kerajaan dan masyarakat antarabangsa memberi kesan kelegaan sementara, sedangkan keusahawanan memberi penyelesaian kekal kepada pemulihan kehidupan dengan cara menyediakan pekerjaan kepada mereka yang terlibat. Objektif utama kajian ini adalah untuk meneliti peranan keusahawanan dalam mengembalikan kesejahteraan hidup melalui prestasi syarikat dan sokongan kerajaan di kawasan bencana di Sindh (daerah Dadu dan Jamshoro), Pakistan. Kajian ini adalah kajian kuantitatif yang menggunakan *Sustainable Livelihood Approach (SLA)* untuk membentuk kerangka kajian. Teknik persampelan pelbagai peringkat digunakan untuk memilih 928 usahawan yang paling terjejas sebagai sampel kajian. Soal selidik digunakan untuk pengumpulan data dan data yang dikumpul dianalisis menggunakan kovarians-pemodelan persamaan berstruktur (covariance-based structural equation modeling). Hasil kajian menunjukkan bahawa keusahawanan boleh memulihkan kesejahteraan hidup melalui kemahiran inovasi, pengambilan risiko dan proaktif; manakala prestasi firma yang lebih baik boleh membantu orang lain untuk memulihkan kesejahteraan hidup mereka. Selain itu, sokongan kerajaan dapat menguatkan prestasi syarikat dan mewujudkan kehidupan mapan usahawan dan masyarakat mereka. Kajian ini telah menyumbang kepada khazanah ilmu dengan ujian SLA di negara yang kurang maju. Dapatan kajian juga boleh membantu penggubal dasar untuk mengemas kini dasar-dasar yang berkaitan dengan pemulihan kesejahteraan hidup dengan memasukkan latihan untuk usahawan sebagai pelan kontingensi dan pelan sokongan kepada sektor perniagaan dalam menghadapi bencana alam. Seterusnya, pengurus dalam pengurusan bencana boleh memberi tumpuan kepada penggalakan keusahawanan semasa melaksanakan sesuatu projek pengurusan bencana. Oleh itu, kajian ini menyimpulkan dan mencadangkan bahawa keusahawanan boleh digunakan dalam program pemulihan kesejahteraan hidup di kawasan yang dilanda bencana terutamanya di negara-negara kurang membangun.

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LIST OF ABBREVIATIONS

DFID	-	The Department for International Development
DG	-	Demographic
EN	-	Entrepreneurship
EO	-	Entrepreneurial Orientation
FAO	-	Food and Agriculture Organization
FP	-	Firm Performance
GoP	-	Government of Pakistan
GS	-	Government Support
HH	-	House Hold
HDI	-	Human Development Index
IDS	-	Institute Development Studies
IN	-	Innovation
INGO	-	International Non-Government Organization
LH	-	Livelihood
NGO	-	Non-Government Organization
NPV	-	Net Present Value
ODI	-	Overseas Development Institute
PA	-	Proactiveness
RT	-	Risk-Taking
SAQ	-	Self-Administrated Questionnaire
SBA	-	Stand-by-Agreement
SME	-	Small & Medium Enterprise
SPSS	-	Statistical Package for Social Sciences
GS	-	Governmental Support
UNDP	-	United Nations Development Program
WHO	-	World Health Organization

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CHAPTER 1

INTRODUCTION

This study determines that entrepreneurship can play a vital role in the restoration of livelihood at the disaster-hit areas at Sindh, Pakistan, through the support of firm performance and government. The discussion about the research background helps to describe problem statement, to develop research objectives, research questions, and hypotheses. Furthermore, this chapter presents the scope, significance, operational definitions and at the end, it describes the structure of this study.

1.1 Research background

Impact of an extreme natural event such as floods, earthquakes, tornadoes, hurricanes, tsunamis, wildfires, and mudslides on an exposed and vulnerable society is called a natural disaster (Galbraith & Stiles, 2006). These disasters demolish means of livelihood (immediate socio-economic structures) of the affected residents and affect the regional ability to sustain itself at the time of recovery, reconstruction and rehabilitation (Garfin & Silver, 2015; Kim & Marcouiller, 2016). Disaster whether natural or human-made affects the region at various levels, consequences of a disaster can be felt as serious human tragedy, physical suffering, and deaths. These direct effects are known as the 'first disaster'. Afterwards, first disaster triggers a chain of cause and effect events that results in 'second disaster' which involves indirect destructions to people living in other areas from the actual disaster site (Ahmad, Kazmi, & Pervez, 2011) causing people to be unable to repay their debts and afford basic facilities including food, health, and shelter. The impact of such

incidence may be higher such as in health (heart attacks, strokes), suicides as emotional responses and killings as a crime. The magnitude of the second disaster can be greater than that of the first disaster. Only proper rehabilitation and care of affected people may break the chain of events leading to the second disaster.

According to (Asgary, Azimi, & Anjum, 2013) the studies on disaster and their impacts on livelihood of affected people started to appear in literature after major flooding and earthquake in the United States such as Loma Prieta Earthquake in 1989, Great Midwest Floods of 1993, Northridge Earth-quake in 1994, and Red River Flood in 1997. This caught the researchers' attention especially after the 9/11 in 2001 and hurricane Katrina in 2005. Henceforward, further studies started to appear in literature for example (Kalabokidis, Kallos, Karavitis, Caballero, Tettelaar, Llorens, & Vasilakos, 2005; Kapucu & Van Wart, 2006). Therefore, it shows that our knowledge about the impacts of disasters and post-disaster livelihood recovery is mostly based on the studies conducted in the United States and less research is done in developing countries (Dorasamy, Raman, & Kaliannan, 2013). Pakistan is a developing country and both the European Union and the United States have listed it as the most vulnerable country to climate change (DeHart, 2011).

1.1.1 History of natural disasters in Pakistan and Sindh

Pakistan has regularly been in the global spotlight in recent decades due to political unrest, national and international security threats, and numerous natural disasters that have plagued the country (DeHart, 2011). Natural disasters often result in great losses, in terms of both human life and property. The unique geo-climatic of four provinces, Azad Jammu and Kashmir and Gilgit Baltistan are vulnerable to geo-climatic disasters; over 40% of the land area is vulnerable to earthquakes, 6% to cyclone, 60% to floods and 25% of the Barani land or rainfed is vulnerable to drought (Ahmad et al., 2011). Floods are the most permanent feature of Pakistan. The main reason that floods are a serious problem in the nation relates to its topography. The Indus, Kabul, and Swat are three hazard-prone rivers, and due to the topographical features interact with the climatic and ecological conditions, resulting in floods occurring in Pakistan annually. However, when floods exceed normal flooding they can have serious impacts (Ahmad et al., 2011).

The Indus River and its tributaries cut across Pakistan. The river basin covers approximately 65% of the total area of the country. The major part of the river basin in Pakistan lies in the province of Sindh, which is prone to floods. It poses a major environmental hazard, particularly when the flood waters overtop, a few km wide river channel; the natural floodplain, confined by the manmade levees or flood protective embankments/bunds (Kazi, 2014) The flood stages are defined in Table 1.1.

Table 1.1: Flood stages in Sindh with respect to Guddu Barrage
(Kazi, 2014)

S#	Discharge*	Stage
1.	Up to 2.0 lac cusecs	Normal
2.	Up to 3.5 lac cusecs	Low
3.	Up to 5.0 lac cusecs	Medium
4.	Up to 7.0 lac cusecs	High
5.	Up to 9.0 lac cusecs	Very High
6.	Above 9.0 lac cusecs	Super

Discharge *: 01 lac cusec is equal to 100,000 cusecs and 01 cusec is equal to 01 cubic foot per second

The designed discharges of water at the Guddu, Sukkur, and Kotri Barrages are 120,000, 900,000 and 875,000 cusecs respectively. Sukkur Barrage was the first to be functional in 1932, followed by the Kotri Barrage in 1955, and lastly the Guddu Barrage in 1965. The first super flood occurred in the year 1973, showed that a total of eleven super floods had occurred, from 1973 to 2010 since the record of floods was kept at Guddu Barrage Table 1.2. This table also shows that in the year 2010 flow of flood water was 11.48 Lac cusecs, which shows that it was a super flood.

Table 1.2: Eleven super flood in Sindh with respect to Guddu Barrage
(Kazi, 2014)

S#	Year	Flow (Lac cusecs)
1.	1973	10.83
2.	1975	10.25
3.	1976	12.00
4.	1978	11.55
5.	1986	11.73
6.	1988	11.62
7.	1989	9.88
8.	1992	10.86
10.	1995	09.88
11.	2010	11.48

1.1.2 Economic impact of natural disasters on Pakistan and Sindh

One might think that estimating the various economic impacts of Pakistan's 2010 floods would be a fairly straightforward exercise, but conceptually, the economic costs to the country can be broken down into several categories, largely depending on their nature, (direct and indirect) and on the time period examined (immediate, short-run, medium-term and long run). Those costs that are a short run and direct are clearly the easiest to identify and measure. Estimates covering longer periods of time and those focused mainly on indirect costs require numerous assumptions concerning counterfactuals and hence are on the less firm ground (Looney, 2012).

Direct economic losses refer to the monetary value of completely or partially destroyed assets, such as social, physical and economic infrastructure calculated at the book value, or the depreciated value of lost immovable assets. Movable assets like goods, furniture, machinery, and inventories lost during the floods were valued at the replacement cost. Indirect economic losses refer to income losses, and comprise both the change of flow of goods and services and other economic flows such as increased expenses, curtailed production and diminished revenue – all of which occur from the direct damage to production capacity and social and economic infrastructure. Using these conventions the total damage (direct, 64.6% and indirect, 35.4%) brought on by the floods amounted to PKR 8.55 billion (Table 1.3). About half of the damage occurred in the agricultural sector (50.2%) with housing (15.8%), transport and communications (13.2%) also heavily impacted (Asia-Development-Bank, 2010).

Table 1.3: Estimate of total damage by sector
(Government-of-Pakistan, 2011)

Sector	Direct Damages PKR (Millions)	Indirect Losses PKR (Millions)	Total Damages PKR (Millions)	%
Social Infrastructure				
Housing	91,843	43,171	135,014	15.7
Health	1,562	2,661	4,222	0.5
Education	22,047	4,418	26,464	3.1
Subtotal	115,451	50,249	165,700	19.4

Table 1.3 (Continued)

Sector	Direct Damages PKR (Millions)	Indirect Losses PKR (Millions)	Total Damages PKR (Millions)	%
Physical Infrastructure				
Irrigation and flood management	23,600	-	23,600	2.8
Transport and communications	62,491	50,420	112,911	13.2
Water supply and Sanitation	3,194	6,112	9,306	1.1
Energy	13,184	13,116	26,300	3.1
Subtotal	102,469	69,648	172,117	20.1
Economic Sectors				
Livestock and fisheries	315,547	113,257	428,805	50.2
Private sector and industries	110	57,141	57,251	6.7
Financial sector	110	57,141	57,251	6.7
Subtotal	330,120	179,866	509,987	59.7
Cross-cutting sectors				
Governance	3,141	2,835	5,976	0.7
Environment	992		999	0.1
Subtotal	4,133	2,835	6,968	.08
Total	552,173	302,599	854,771	100

Table 1.4 shows province wise losses, Sindh province suffered the most damage 43.6%, followed by Punjab 25.7% and Khyber-Pakhtunkhwa 11.7% (Asia-Development-Bank, 2010)

Table 1.4: Estimated damage cost by Province/Area
(Government-of-Pakistan, 2011)

Province/Region	Damage Cost PKR (Million)	Damaged Area (%)
Azad Jamu and Kashmir (AJK)	7,303	0.85
Baluchistan	52,676	6.16
Federal Administrated Tribal Area (FATA)	6,271	0.73
Gilgit – Baltistan	4,165	0.49
Khyber Pakhtunkhawa (KPK)	99,625	11.66
Punjab	219,272	25.65
Sindh	372,341	43.56
Federal-cross-cutting sectors	93,117	10.89
National Total	854,771	100

Short-term impacts, the economy of Pakistan was already in stress prior to catastrophic floods. The government's debt had increased to over \$55 billion. The tax base was anemic, and a third of the population fell below the poverty line (Looney, 2012). In addition, the Pakistani government calculated that since 2001 the

war on terrorism had cost the country \$67.93 billion, with the cost in 2010–2011 alone coming to \$17.82 billion. After the floods caused over US\$ 10 billion worth of damage, Pakistan was forced to cope with even more adversity – some directly flood-related, while others more tangentially so – strained fiscal resources, handicapped infrastructure, insufficient agricultural and textile output and subpar textile exports. Rising inflation, increased defense spending, reduced subsidies and acute power shortages negatively impacted rural and urban wages, private demand, manufacturing activity and public spending on economic development (already an extremely low percentage of the budget). Compounding the government's problems renewed insurgent violence, kidnappings, and killings of public officials in early 2011 added another element of uncertainty and contributed to a significant drop in private investment critically needed for recovery and job creation; with the end of the 2010–2011 fiscal year (1 July 2010 through 30 June 2011), a clearer picture of the floods impact has emerged. For the economy as a whole, the floods appear to have reduced GDP growth by about 2 percentage points (Government-of-Pakistan, 2011).

Longer-term Impact presented a unique opportunity to undertake tough economic reforms 'instead of looking towards the world to bail Pakistan out of a major crisis. The floods are a game-changer and we may never go back to being in a position where the next Stand-by-Agreement (SBA) [Agreement between IMF and Pakistan from November 2008 until September 2011] bails us out. The World simply does not have the resources to get us out of this mess' (Looney, 2012). Without sustained growth, post-flood recovery will always be anemic, with government deficits, inflationary pressures increasing poverty and reducing the country's capacity to provide viable employment opportunities for those unfortunate enough to lose everything – or those simply trying to flee rural feudal enslavement. It is becoming increasingly clear, however, that traditional foreign aid is not the solution. Not only have massive infusions of foreign aid failed to bring stability or sustained growth to Pakistan or buy goodwill for major donors such as the United States.

1.2 Problem statement

The Small and Medium Enterprise Development Authority (SMEDA) Pakistan is a government operated institution which supports entrepreneurship in Pakistan.

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